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Data Sheet

August 2, 2026

ILX LIGHTWAVE

ILX Lightwave LDX-3620 – Ultra Low-Noise Current Source

ILX Lightwave LDX-3620 – Ultra Low-Noise Current Source The ILX Lightwave LDX3620 is a battery-powered ultra-low-noise laser diode current source (original 3620, not the lower-noise 3620B successor) that provides dual full-scale ranges with constant-current and constant-power photodiode feedback modes for precision LD drive. Laboratory and field laser diode characterization where battery isolation reduces line-borne noise; ultra-low-noise CW and modulated drive for spectroscopy and communications sources; photodiode-stabilized constant-power operation; portable setups requiring built-in battery charging. The ILX Lightwave LDX3620 is a battery-powered ultra-low-noise laser diode current source (original 3620, not the lower-noise 3620B successor) that provides dual full-scale ranges with constant-current and constant-power photodiode feedback modes for precision LD drive. Laboratory and field laser diode characterization where battery isolation reduces line-borne noise; ultra-low-noise CW and modulated drive for spectroscopy and communications sources; photodiode-stabilized constant-power operation; portable setups requiring built-in battery charging.



MODEL

**ILX Lightwave
LDX-3620**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

LDX-3620

LISTING

<https://aumictechlabs.com/products/ldx-3620-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The ILX Lightwave LDX-3620 is a battery-powered, ultra-low-noise current source for precision laser diode testing and characterization. It delivers stable, low-noise current output with operating modes for constant current (low and high bandwidth) and constant optical power, plus comprehensive laser diode protection.

Technical Specifications

Current Output Laser diode current range: 0 to 200 mA or 0 to 500 mA Compliance voltage: < 5 V Output noise/ripple: < 600 nA rms (standard); < 100 nA rms in battery mode Current noise density: 815 pA/ $\sqrt{\text{Hz}}$ Wideband current noise: 850 nA rms Output stability: < 10 ppm over one hour; < 50 ppm over 24 hours; < 4 ppm over 5 minutes Temperature coefficient: < 20 ppm/ $^{\circ}\text{C}$ Floating output: Fully floating relative to earth ground

Operating Modes Constant current (low bandwidth): Stable DC with minimum noise Constant current (high bandwidth): DC or modulated control up to 1 MHz Constant optical power: Closed-loop optical power regulation

Modulation & Control Internal programmable ramp generator Two external modulation inputs (fine and coarse), AC or DC coupled High bandwidth mode: DC to 1 MHz (3 dB) Low bandwidth mode: 10 kHz (3 dB) AC coupled: 100 Hz to 1 MHz Transfer functions: 2 mA/V or 5 mA/V (primary input, depending on range); 100 mA/V or 250 mA/V (external modulation, depending on range)

Protection Adjustable current limit with transient protection Slow-start turn-on circuits Shoring relays across output IEC surge and electrically fast transient (EFT) tested Error indicators for open circuit and power-limit conditions

Display & Power 4.5-digit display AC input: 100–120 VAC ($\pm 10\%$, 47–63 Hz) or 210–250 VAC Maximum current draw: 1.6 A (100–120 VAC) Internal lead-acid battery: 4.5 A·h (standard); optional long-life battery available Battery operation: Up to 16 hours at full charge

Key Features Ultra-low noise output (< 100 nA rms battery mode) for spectroscopy and coherent communications Excellent short-term and long-term stability across temperature Dual-range current capability (200 mA or 500 mA) Multiple modulation inputs with programmable waveform generation Comprehensive laser diode overstress protection

Typical Applications Narrowlinewidth laser characterization Coherent optical communications testing Spectroscopic applications requiring stable laser wavelength Research and development of semiconductor laser sources

Compatibility & Integration Fully floating output allows flexible circuit integration. Dual modulation inputs (fine and coarse) support both AC and DC coupling schemes. Four-and-a-half digit display provides direct current and power readout.

Features & description

From manufacturer datasheet

Features

- Battery-powered ultra-low-noise LD current source (LDX-3620; predecessor to LDX-3620B)
- Dual current ranges 0–200 mA and 0–500 mA
- Compliance voltage >5 V (200 mA range) / >4 V (500 mA range)
- Battery-mode noise and ripple (5 Hz–10 MHz): <850 nA rms (200 mA) / <2 μ A rms (500 mA)
- AC-line operation exhibits higher noise than battery mode
- Constant current (CC) and constant power (CP) modes
- Photodiode feedback range 20 μ A–2 mA full scale (CP mode)
- Current limit protection
- External modulation: transfer approximately 100 mA/V @ 200 mA range; approximately 250 mA/V @ 500 mA range; bandwidth to approximately 1 MHz class
- Built-in battery charger
- 4.5-digit front-panel display

LDX3620 Characteristics / Specifications

PARAMETER	VALUE
Model	LDX-3620 (original; LDX-3620B is successor with lower noise)
Manufacturer	ILX Lightwave (Newport)
Instrument Type	Ultra-low-noise laser diode current source
Alias	LDX3620
Current Ranges	0–200 mA; 0–500 mA
Compliance Voltage	>5 V (200 mA range); >4 V (500 mA range)
Power Source	Battery with built-in charger; AC-line operation available (higher noise)
Operating Modes	Constant current (CC); constant power (CP) via photodiode feedback
Photodiode Feedback FS	20 μ A–2 mA
Current Limit	Provided
Modulation Transfer	approximately 100 mA/V (200 mA range); approximately 250 mA/V (500 mA range)
Modulation Bandwidth	to approximately 1 MHz class
Display	4.5-digit Standard Operating Conditions For lowest noise measurements, operate from battery power with charger off or disconnected per ILX guidance. Set current limit below device maximum before enable. Configure CP mode photodiode range to match monitor diode output at operating power.
Battery-mode noise and ripple (5 Hz–10 MHz)	<850 nA rms (200 mA) / <2 μ A rms (500 mA)
External modulation	transfer approximately 100 mA/V @ 200 mA range; approximately 250 mA/V @ 500 mA range; bandwidth to approximately 1 MHz class
Bandwidth	to approximately 1 MHz class - Built-in battery charger - 4.5-digit front-panel display

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications

Specifications

PARAMETER	VALUE
Model	LDX-3620 (original; LDX-3620B is successor with lower noise)
Manufacturer	ILX Lightwave (Newport)
Instrument Type	Ultra-low-noise laser diode current source
Alias	LDX3620
Current Ranges	0–200 mA; 0–500 mA
Compliance Voltage	>5 V (200 mA range); >4 V (500 mA range)

Noise/Ripple (battery, 5 Hz–10 MHz): <850 nA rms (200 mA); <2 µA rms (500 mA)

Specifications

PARAMETER	VALUE
Power Source	Battery with built-in charger; AC-line operation available (higher noise)
Operating Modes	Constant current (CC); constant power (CP) via photodiode feedback
Photodiode Feedback FS	20 µA–2 mA
Current Limit	Provided
Modulation Transfer	approximately 100 mA/V (200 mA range); approximately 250 mA/V (500 mA range)
Modulation Bandwidth	to approximately 1 MHz class
Display	4.5-digit

Standard Operating Conditions

For lowest noise measurements, operate from battery power with charger off or disconnected per ILX guidance. Set current limit below device maximum before enable. Configure CP mode photodiode range to match monitor diode output at operating power.

Operational Notes

Do not apply LDX-3620B sub-100 nA noise specifications to the original LDX-3620—the 3620B is the lower-noise successor. Confirm model suffix on faceplate when comparing to 3620B datasheets. Alias LDX3620 (hyphenless) appears in inventory systems.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
30-day returns
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.